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<110> Ajinomoto Co., Inc.

5 <120> A method for improving the thermostability of a
protein, a protein having improved thermostability and
a nucleic acid sequence encoding the protein

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<150> JP 2000-201920

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<151> 2000-07-04

<150> JP 2001-164332

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<170> PatentIn Ver. 2.1

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ata gta tct aaa tct aag aga ata tta gcc aaa ata aat gag ctt tat 96

Ile Val Ser Lys Ser Lys Arg Ile Leu Ala Lys Ile Asn Glu Leu Tyr

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tct ttg cct atc gaa tat att gaa gta gaa gct ggt gat cgt gca ttg 144

Ser Leu Pro Ile Glu Tyr Ile Glu Val Glu Ala Gly Asp Arg Ala Leu

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gca aga tat ggt gaa gca ttg cca aaa gat agc tta aaa atc att gat 192

Ala Arg Tyr Gly Glu Ala Leu Pro Lys Asp Ser Leu Lys Ile Ile Asp

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aag gcc gat ata att ttg aaa ggt cca gta gga gaa tcc gct gca gac 240

Lys Ala Asp Ile Ile Leu Lys Gly Pro Val Gly Glu Ser Ala Ala Asp

65 70 75 80

5 gtt gtt gtc aag tta aga caa att tat gat atg tat gcc aat att aga 288

Val Val Val Lys Leu Arg Gln Ile Tyr Asp Met Tyr Ala Asn Ile Arg

85 90 95

cca gca aag tct atc ccg gga ata gat act aaa tat ggt aat gtt gat 336

) Pro Ala Lys Ser Ile Pro Gly Ile Asp Thr Lys Tyr Gly Asn Val Asp

100 105 110

ata ctt ata gtg aga gaa aat act gag gat tta tac aaa ggt ttt gaa 384

Ile Leu Ile Val Arg Glu Asn Thr Glu Asp Leu Tyr Lys Gly Phe Glu

115 120 125

cat att gtt tct gat gga gta gcc gtt ggc atg aaa atc ata act aga 432

His Ile Val Ser Asp Gly Val Ala Val Gly Met Lys Ile Ile Thr Arg

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ttt gct tct gag aga ata gca aaa gta ggg cta aac ttt gca tta aga 480

Phe Ala Ser Glu Arg Ile Ala Lys Val Gly Leu Asn Phe Ala Leu Arg

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25 agg aga aag aaa gta act tgt gtt cat aag gct aac gta atg aga att 528

Arg Arg Lys Lys Val Thr Cys Val His Lys Ala Asn Val Met Arg Ile

165 170 175

act gat ggt tta ttc gct gaa gca tgc aga tct gta tta aaa gga aaa 576

30 Thr Asp Gly Leu Phe Ala Glu Ala Cys Arg Ser Val Leu Lys Gly Lys

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gta gaa tat tca gaa atg tat gta gac gca gca gcg gct aat tta gta 624
Val Glu Tyr Ser Glu Met Tyr Val Asp Ala Ala Ala Ala Asn Leu Val

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Arg Asn Pro Gln Met Phe Asp Val Ile Val Thr Glu Asn Val Tyr Gly

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gac att tta agt gac gaa gct agt caa att gcg ggt agt tta ggt ata 720
Asp Ile Leu Ser Asp Glu Ala Ser Gln Ile Ala Gly Ser Leu Gly Ile
225 230 235 240

gca ccc tct gcg aat ata gga gat aaa aaa gct tta ttt gaa cca gta 768
Ala Pro Ser Ala Asn Ile Gly Asp Lys Lys Ala Leu Phe Glu Pro Val
245 250 255

cac ggt gca gcg ttt gac att gct gga aag aat ata ggt aat ccc act 816
His Gly Ala Ala Phe Asp Ile Ala Gly Lys Asn Ile Gly Asn Pro Thr

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gca ttt tta ctt tct gta agt atg atg tat gaa aga atg tat gag cta 864
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tct aat gac gat aga tat ata aaa gct tca aga gct tta gaa aac gct 912
Ser Asn Asp Asp Arg Tyr Ile Lys Ala Ser Arg Ala Leu Glu Asn Ala

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Ile Tyr Leu Val Tyr Lys Glu Arg Lys Ala Leu Thr Pro Asp Val Gly

305 310 315 320

5 ggt aat gcg aca act gat gac tta ata aat gaa att tat aat aag cta 1008

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35 40 45

Ala Arg Tyr Gly Glu Ala Leu Pro Lys Asp Ser Leu Lys Ile Ile Asp

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Lys Ala Asp Ile Ile Leu Lys Gly Pro Val Gly Glu Ser Ala Ala Asp
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Pro Ala Lys Ser Ile Pro Gly Ile Asp Thr Lys Tyr Gly Asn Val Asp
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Phe Ala Ser Glu Arg Ile Ala Lys Val Gly Leu Asn Phe Ala Leu Arg
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Arg Arg Lys Lys Val Thr Cys Val His Lys Ala Asn Val Met Arg Ile
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His Gly Ala Ala Phe Asp Ile Ala Gly Lys Asn Ile Gly Asn Pro Thr
 260 265 270

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Ser Asn Asp Asp Arg Tyr Ile Lys Ala Ser Arg Ala Leu Glu Asn Ala
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Ile Tyr Leu Val Tyr Lys Glu Arg Lys Ala Leu Thr Pro Asp Val Gly
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<213> Bos taurus

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Ala Leu Phe Glu Pro Val

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<212> PRT

<213> Thermus thermophilus

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Ser Gly Leu Ser Ala Gly Ser Leu Gly Leu Thr Pro Ser Ala Asn Ile

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5

10

15

Asn Ala Leu Val Gly Gly Ile Gly Met Ala Ala Gly Leu Asp Met Gly

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Ala Val Ala Glu Pro Val

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